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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,726	06/26/2003	Pierre-Marc Allemand	12406-167001 / P2003,0423	5818
26181	7590	06/19/2006	EXAMINER ROY, SIKHA	
FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,726

Applicant(s)

ALLEMAND, PIERRE-MARC

Examiner

Sikha Roy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment, filed on April 4, 2006 has been entered and acknowledged by the Examiner.

The rejection of claims 23, 34 and 38 under 35 U.S.C § 112, second paragraph is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,226,890 to Boroson et al.

Regarding claim 22 Boroson discloses (Fig. 3B, 4 column 6 lines 17-22, 59-67, column 7 lines 5-7) a getter composition 50 comprising a reactive material disposed in an encapsulated device the reactive material comprising desiccant particles 54 of alkaline earth metal oxides (calcium oxide, barium oxide in Example 1) and an inert material (binder) 52 disposed in the encapsulated device. Furthermore Boroson

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discloses (column 4 lines 45-49) that the binder can be thermally cured to a solid and hence inherently adapts to respond to energy input by morphological change.

Regarding claim 23 Boroson discloses (column 7 lines 8-11,32-37) the inert material (binder) are moisture-permeable radiation-curable acrylates.

Regarding claims 24 and 25 Boroson discloses (column 6 lines 17-22) the inert material comprises a binder 52 and the reactive material 54 (desiccant particles) are dispersed and hence mixed in the binder.

Regarding claim 26 Boroson discloses (column 6 lines 46-51) the weight fraction of the reactive material (desiccant) in the inert material (binder) is in a range of 10% to 90%.

Regarding claims 27 and 28 Boroson discloses (column 6 lines 41,42, claim 21) the reactive material (desiccant particles) has particle size ranging from 0.1 to about 200 micrometers.

Regarding claims 29 and 30 Boroson discloses (Fig. 4 column 6 lines 4-34) the encapsulated device is an optoelectronic device, an organic light emitting device.

Regarding claim 31 Boroson discloses (Fig. 3B column 4 lines 35-54) the reactive material is in a layer of thickness t .

Claims 35, 36 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,737,176 to Otsuki et al.

Regarding claim 35 Otsuki discloses (column 4 lines 8-23) a getter structure (desiccating layer) disposed in an encapsulated organic EL device comprising a layer of

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reactive material (desiccant including barium oxide, calcium oxide) and a layer of inert material (resin layer) disposed on the layer of reactive material. Otsuki further discloses the resin layer comprising photo-curable resin, adapted to respond to energy by morphological change. This configuration provides the advantage of manufacturing the sheet containing the reactive material in advance and reduction of cost of manufacturing the device.

Regarding claim 36 Otsuki discloses the first layer of reactive material comprising desiccant including barium oxide, calcium oxide.

Regarding claim 38 Otsuki discloses (column 4 lines 31-37) the second layer of inert material comprising silicon-based resin, olefin-based resin.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,890 to Boroson.

Regarding claim 32, Boroson discloses the claimed invention except for the limitation of thickness of the layer in the range of 0.1 to 10 microns. It is noted that the thickness of the reactive material layer determines the amount of moisture vapor

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transmission rate and hence the amount of desiccation provided in the encapsulated device. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the thickness of the reactive material layer in the range 0.1 to 10 microns, for providing desired desiccation inside the organic EL device of Boroson, since optimization of workable ranges is considered within the skill of the art.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,890 to Boroson and further in view of U.S. Patent 6,112,888 to Sauro et al.

Regarding claim 33 Boroson does not explicitly disclose the inert material being wax.

Sauro in the same field of endeavor discloses (column 3 lines 37-40) use of polyethylene waxes as inert material. Sauro further teaches polyethylene waxes are preferred for applications requiring high speed application through small orifices.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use wax as inert material in the desiccating layer of Boroson as suggested by Sauro for specific packaging application such as the one requiring high speed application through small orifices.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,890 to Boroson and further in view of U.S. Patent 6,967,640 to Albert et al.

Regarding claim 34 Boroson discloses acrylates, methacrylates but does not disclose explicitly using copolymers of polyethylene, polypropylene, polybutene, polyethylene oxide or polypropylene oxide (Elvax resin) as inert material.

Albert in pertinent art discloses (column 9 lines 54-67) ethylene –vinyl acetate copolymers, polyacrylates, polymethacrylates are art recognized equivalents.

It would have been obvious to use ethylene –vinyl acetate copolymers as disclosed by Albert instead of methacrylates as inert material of Boroson because the two materials are art recognized equivalents.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,737,176 to Otsuki et al.

Regarding claim 37, Otsuki discloses the claimed invention except for the limitation of thickness of the first layer in the range of 0.1 to 10 microns. It is noted that the thickness of the reactive material layer is determined by the amount of moisture resistance and hence the amount of desiccation provided in the encapsulated device. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the thickness of the reactive material layer in the range 0.1 to 10 microns, for providing desired moisture resistance inside the organic EL device of Otsuki, since optimization of workable ranges is considered within the skill of the art.

Response to Arguments

Applicant's arguments filed April 4, 2006 have been fully considered but they are not persuasive.

With regard to rejection of claim 22 the applicant argues that Boroson teaches the binder containing desiccant is cured by heating and therefore is not exposed to morphological change. The Examiner respectfully disagrees. Boroson teaches (column 4 lines 45-49, claims 1, 9) the binder is radiation-curable and thus undergoes morphological changes from liquid to solid when exposed to thermal energy. Claims in an application are given their broadest reasonable interpretation. The examiner thus submits that the inert material (binder) indeed undergoes morphological change in response to energy input. It is further noted that the applicant has not expressly disclosed any particular definition of morphological change of the binder responding to energy input.

Furthermore it has been held that the recitation that the inert material is "adapted to respond to energy input by at least one of melting or morphological change" is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

In response to applicant's argument regarding claim 35 that Otsuki expressly discloses the resin layer is photo-curable and hence is not exposed to morphological change the examiner disagrees. Otsuki discloses (column 4 lines 47-52, column 7 lines 47-52) the desiccant containing layer is photo-curable resin including silicone based

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resin, epoxy-based resin and is cured by heating or exposure to light. The examiner thus submits that the inert material (resin) indeed undergoes morphological change in response to energy (light or heat) input. It is further noted that the applicant has not disclosed any particular definition of morphological change of the binder responding to energy input.

Furthermore it has been held that the recitation that the inert material is "adapted to respond to energy input by at least one of melting or morphological change" is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,671,889 to Schreiner et al. and U.S. Patent 6,936,131 to McCormick et al. disclose encapsulation of electronic devices using desiccant dispersed in hot-melt polyamide-polyether copolymers.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879

K. Guhasay
6/8/06